Creating Environments that Heal: This Manuscript Explains the ways to Improve patient Safety Taking into Consideration of How the Environment Plays a Critical Role

Article by Jayamargin Hemalatha
RN-MSN Nursing, Texila American University, India
E-mail: amhhemalatha@gmail.com

Abstract

The patient environment of care plays a vital role in the discipline of patient safety for every hospital. Demonstrating that the hospital is a safe place for patients and for those that work there should be of the utmost importance for all healthcare personnel. This article broadly describes or outlines ten important points that will improve overall patient and staff safety in any hospital or healthcare set-up to ensure safety and increase patient satisfaction.

Introduction

The goal of this manuscript is to provide fundamental definitions that link with patient safety with environmental considerations. Evidence has been summarized that indicates how nursing personnel play key roles to improve quality healthcare through patient safety and interventions and strategies. Patient safety is a new healthcare discipline that emphasizes the preventing, reducing, reporting and analysis of medical error (A medical error is a preventable adverse effect of care, whether or not it is evident or harmful to the patient. This might include an inaccurate or incomplete diagnosis or treatment of a disease, injury, syndrome, behavior, infection, or other ailment.) That often leads to adverse healthcare events. The frequency and magnitude of avoidable adverse patient events was not well known until the 1990s, when multiple countries reported staggering numbers of patients harmed and killed by medical errors. Recognizing that healthcare errors impact 1 in every 10 patients around the world, the World Health Organization calls patient safety an endemic concern. Indeed, patient safety has emerged as a distinct healthcare discipline supported by an immature yet developing scientific framework. There is a significant transdisciplinary body of theoretical and research literature that informs the science of patient safety. The resulting patient safety knowledge continually informs improvement efforts such as: applying lessons learned from business and industry, adopting innovative technologies, educating providers and consumers, enhancing error reporting systems, and developing new economic incentives.

Global health continues to redefine itself from the historical legacy of 'international health' and 'humanitarian medicine'. A process of 'co-development' and mutual learning between countries is now needed to strengthen health systems and improve health outcomes. Kaplan sees this evolution as running "parallel to a shift in philosophy and attitude that emphasizes the mutuality of real partnership, a pooling of experience and knowledge, and a two-way flow between developed and developing countries" Lord Nigel Crisp also eloquently highlights the utility of shared learning to secure global health improvements]. This concept of bidirectional learning between rich and poor countries is increasingly being explored in emerging literate

Traditional approaches to patient safety have focused primarily on research to demonstrate how a new practice leads to improved quality and patient safety. Much less attention has been paid on how to implement this practice. The importance of considering improvement as a socio-behavioral process has also been emphasized, but remains an emerging field of enquiry.

There is now growing recognition that patient safety and quality is a critical dimension of universal health coverage. Since the launch of the World Health Organization Patient Safety Programme in 2004, over 140 countries have worked to address the challenges of unsafe care.

This unique approach to tackling patient safety through partnerships between hospitals in Africa and Europe is paving the way for improving patient safety across the African region," says Dr Shams Syed, who oversees the programme at World Health Organization.

"The tools co-developed by this programme are now available free to any hospital anywhere in the world that wants to take action to improve patient safety," he adds.

Patient safety is a serious global public health issue. Estimates show that in developed countries as many as one in 10 patients is harmed while receiving hospital care. In some developing countries, the risk of health care-associated infection is as much as 20 times higher than in developed countries.

One in 10 patients may be harmed while in hospital

Estimates show that in developed countries as many as 1 in 10 patients is harmed while receiving hospital care. The harm can be caused by a range of errors or adverse events.

Patient Safety Issues

Diagnostic Errors: Such as wrong, missed or unintentional delayed diagnosis.

Health Care: Acquired Infections: These are the errors which occur during patient's hospitalization.

Medication Errors: When a patient gets the wrong medication, or when he or she receives the right medication but in the wrong dosage.

Readmissions: A readmission is when a patient needs to return to the hospital less than 30 days after being discharged.

Wrong-Site Surgery: Wrong-site surgery means an operation done on the wrong part of the body or on the wrong person.

Communication: Proper communication between the hospital workers as well as between the patient and doctor.

How to ensure proper patient Safety?

Ensure proper patient identity. Patient coding/labeling can be helpful.

Do not use abbreviations while writing prescriptions. Preferably use capital letters so that it is easy for the patient to understand.

Training of healthcare professionals and team building activities can help in reducing such errors.

Proper healthcare infrastructure will help in reducing patient harm during hospitalization.

Effective use of signage will avoid unnecessary delays during hospitalization.

Take proper charge when handing over/taking over the patients especially during shifts.

Engaging patient and their families in their own care. Adherence to Standard Operating Procedure (SOP) facilitates patient's safety.

Doctors should be trained for rational use of medicines and especially avoid over prescription.

Hospital infections affect 14 out of every 100 patients admitted

Of every 100 hospitalized patients at any given time, seven in developed and 10 in developing countries will acquire health care-associated infections (HAIs). Hundreds of millions of patients are affected worldwide each year. Simple and low-cost infection prevention and control measures, such as appropriate hand hygiene, can reduce the frequency of Healthcare Associated Infections by more than 50%.

Nosocomial infections are infections are acquired in hospitals and other healthcare facilities. To be classified as a nosocomial infection, the patient must have been admitted for reasons other than the infection. He or she must also have shown no signs of active or incubating infection.

These infections occur:
- Up to 48 hours after hospital admission
- Up to 3 days after discharge
- Up to 30 days after an operation
- In a healthcare facility when a patient was admitted for reasons other than the infection
- Urinary tract infections are the most common type of nosocomial infection

The location of a nosocomial infection depends on the nature of a patient's hospital procedure.

Nosocomial infections are caused by pathogens that easily spread through the body. Many hospital patients have compromised immune systems, so they are less able to fight off infections. In some cases, patients develop infections due to poor conditions at a hospital or a healthcare facility, or due to hospital staff not following proper procedures.

Some patients acquire nosocomial infections by interacting with other patients. Others encounter bacteria, fungi, parasites, or viruses in their hospital environment.

Any hospital patient may obtain a nosocomial infection.

Patients in intensive care units have a higher risk of developing an infection. According to the 1995 European Prevalence of Infection in Intensive Care Study, up to 20.6 % of Intensive Care Unit patients acquire nosocomial infections during or after their stay.

Most people lack access to appropriate medical devices

There are an estimated 1.5 million different medical devices and over 10 000 types of devices available worldwide. The majority of the world's population is denied adequate access to safe and appropriate medical devices within their health systems. More than half of low- and lower middle-income countries do not have a national health technology policy which could ensure the effective use of resources through proper planning, assessment, acquisition and management of medical devices.

"The medical device industry holds great promise for public health, sometimes spectacular promise, sometimes seductive promise," said Dr Margaret Chan, World Health Organization Director-General. "Health officials and hospital managers in all countries, at all levels of development, need guidance. We are also holding this forum because the unquestionable benefits of medical devices are so unevenly and unfairly distributed."

today there are some 10 500 different types of medical devices on the market. They range from high-cost, high-tech diagnostic and therapeutic equipment such as linear accelerators to treat cancer to stethoscopes and other basic technologies that help doctors and nurses provide health care on a daily basis. They also include devices that improve millions of people's lives such as wheelchairs, hearing aids, eyeglasses, pacemakers and prostheses. A new WHO study, Medical devices: managing the mismatch; and an ongoing survey that has so far mapped medical device use in 140 countries, reveal that too many people are currently excluded from their benefits.

Affordability is one problem. Worldwide, annual government expenditure on health ranges from well over US$ 7 000 per person to less than US$ 10. Low levels of expenditure on health in general lead to low levels of expenditure on medical devices. This, in turn, leads to inadequate investment in all forms of medical devices: in some countries, shortages of needles, syringes, and sterilizing equipment mean that up to 40% of injections are unsafe.

A second problem is that most medical equipment used in low-resource settings is imported or donated from industrialized countries. Many of these devices do not function properly.

A third problem is lack of capacity. In many areas, devices are not used to full effect because of erratic power supplies, uncertain water quality, a shortage of health personnel, limited training capacity, difficulties in getting spare parts, and poor or inadequate maintenance.

A fourth challenge is the absence of a single naming system, harmonized regulatory processes and universally standardized medical devices. This is often exacerbated by the lack of effective management of medical devices at government level and within health-care facilities.

The fifth issue is the need to focus more on ensuring that medical devices fulfill their potential to improve public health. This means increasing access to the medical devices that

are required to deliver basic services: blood transfusion equipment to prevent women experiencing complications in labour, anaesthesia machines, oxygen supplies and basic surgical equipment. It also means addressing new challenges in public health, notably the ongoing rise of chronic diseases such as cardiovascular disease, stroke, cancers and diabetes, and providing medical devices enabling patients to self-monitor their health.

Unsafe injections decreased by 88% from 2000 to 2010

Key injection safety indicators measured in 2010 show that important progress has been made in the reuse rate of injection devices (5.5% in 2010), while modest gains were made through the reduction of the number of injections per person per year (2.88 in 2010).

Measurements for the year 2000

The annual number of injections per year per person and the proportion of re-use had been estimated by World Health Organization using the tools from these data; the annual number of unsafe injections per year per person can be calculated. At the time, the Demographic and Health Surveys (DHS) did not collect information on injection practices. World Health Organization had relied on studies of injections practices through standardized injection safety surveys in 10 African countries and Kyrgyzstan (observations in < 80 randomly selected healthcare facilities in each country), on non-standardized surveys in Pakistan, India, China and Indonesia (observations in a convenience sample of health facilities), on back-calculations from relative risks (Egypt and Moldova), on extrapolations and on the combination of several methods. These had been fetched from published literature, unpublished World Health Organization reports, and SIGN reports. sources of information included population- based injection frequency surveys (14 countries) and other types of population-based data using the World Health Organization guide for rapid assessment of injection practices Measurements for 2010 As data on injections were not available for each calendar year, the 2010 estimates used information generated as close as possible to this date, the limits being 2005 to 2011 (similar rounding had been used for 2000). Within each region, data from as many countries as possible were collected and regional estimates were calculated after weighting by total population size for the countries where estimates were available

In countries where this information had been collected, the following measures were extracted from the reports: The average number of injections received during the last year (or, in some countries, over the last 6 months, which was then doubled)

The proportion of participants who claimed that their last injection had been made with a syringe and a needle coming from an unopened package

Delivery of safe surgery requires a teamwork approach

An estimated 234 million surgical operations are performed globally every year. Surgical care is associated with a considerable risk of complications. Surgical care errors contribute to a significant burden of disease despite the fact that 50% of complications associated with surgical care are avoidable.

Studies in operating theatres reveal that teams who communicate and co-operate well commit less technical errors, whilst analysis of medical accidents shows that poorly designed systems of work which rely on human memory and diligence are often responsible. We therefore believe that an effective strategy to improve safety should address the issues of teamwork, communication and "failsafe" systems of work. We can take lessons in how to correct the problems from other industries who have addressed them before us. We have studied interventions to improve teamwork (using a training system adapted from aviation) and have shown improvements in technical performance and safety-related process reliability. We have also noted difficulties with acceptance of specific aspects of training

We now need to: Confirm the benefits of the training; demonstrate its applicability beyond operating theatres into other areas of acute surgical care; Test modifications designed to deal with the problems identified in earlier work.

About 20%–40% of all health spending is wasted due to poor-quality care

Safety studies show that additional hospitalization, litigation costs, infections acquired in hospitals, disability, lost productivity and medical expenses cost some countries as much as

US$ 19 billion annually. The economic benefits of improving patient safety are therefore compelling.

The World Health Organization recently reports that about 20%–40% of all health spending is wasted due to poor-quality care.

The reports states that safety studies show that poor diagnosis skills due to incomplete history taking, physical examination and work up in addition to poor physician-patient communication skills cause additional hospitalization, litigation costs, infections acquired in hospitals, disability, lost productivity and medial expenses cost some countries as much as US$ 19 billion annually. The economics of addressing these issues to improve patient safety are therefore compelling.

In current busy clinical environment and short patient interview time, how can physician work efficiently and comprehensively at the same time?!

Bottom line reality is; Physicians have limited time allocated to each patient visit. There are more patients than physicians and training more physicians with these economical circumstances is not possible

Have a wide list of differentials to cover in order to be a good physician and to protect themselves. Obviously, the focused history and physical approach became so focused that failed frequently

Have no time for establishing an effective patient-physician relationship Have limited time to explore patient management options.

A poor safety record for health care

Industries with a perceived higher risk such as the aviation and nuclear industries have a much better safety record than health care. There is a 1 in 1 000 000 chance of a traveler being harmed while in an aircraft. In comparison, there is a 1 in 300 chance of a patient being harmed during health care.

Among the technology hazards identified for 2014 are the following:

Medical device alarm hazards, Infusion pump medication errors, Computed tomography radiation exposures in pediatric patients, Computer-assisted sedation, and Emergency departments for the elderly Wearable powered exoskeleton rehabilitation for individuals with paraplegia

The expanding capabilities of electronic health record systems require increasingly complex software, which heightens the likelihood of software failures that may harm patients. A software flaw in an electronic health record system containing hundreds or thousands of medical records, such as a glitch that causes an inaccurate recording of patients' allergies or medications, could adversely affect a large number of patients. Software bugs may jumble data, deleting information or depositing it in the wrong place. Computers may spew forth a slew of disorganized data, such that physicians are unable to quickly find critical patient

information. Data may be missing or corrupted (e.g., a laboratory value may come back with an extra character inadvertently inserted). System interface problems can lead to poor decisions, delays, data loss, errors, unnecessary testing, and system downtime.

Workarounds are often employed by users when systems are not flexible enough to support real-life clinical practice and workflow patterns. However, these workarounds can further undermine patient safety. For example, when a medication system does not allow administration of a drug until the order has been entered in the system by the physician, even in urgent situations, documentation of the order may occur after it has been administered, which could result in the medication being administered again Disabling functions such as alerts because they are distracting or disruptive can result in a critical safety feature not being deployed when needed.

Patient and community engagement and empowerment are key

People's experience and perspectives are valuable resources for identifying needs, measuring progress and evaluating outcomes. There are strong democratic reasons

For involving local people as much as possible in the decisions that shape their communities. Their input ensures services are better suited to local needs. For councils, community empowerment is important as it demonstrates the result of effective community engagement between service providers and the public. For ward councilors, community empowerment is important as it demonstrates that there is an effective democratic process and that people feel that they can influence local decision-making. Councillors from al Community empowerment means different things to different councilors. This section illustrates what it may mean for you. It focuses on knowing who the community groups in your ward are, linking participation to your representative role, balancing community views and managing your workload. Although consumer and community engagement in health care is receiving increasing attention, research and practice in this area are hampered by the variability of concepts and terminology commonly employed. This scoping meta-review aims to identify key consumer and community engagement concepts and examine terminology used to describe them. 59 systematic reviews met the selection criteria and were included in the final analysis. The analysis identified nine different concepts related to consumer and community engagement: shared decision making, self-management, consumer and community engagement in health care systems, community-based health promotion, and providing access to health care, rehabilitation, and participation in research, collaboration in research design and conduct, and peer support. The identified concepts differ from each other in many aspects including the aim of the activity, the role of consumers and the type of professionals' involvement. Each concept was described by a range of terms, with some terms shared by different concepts. In addition, two overlapping concepts of patient-centeredness and patient empowerment were recognized.

This study describes consumer and community engagement -related key concepts and provides new insight into their relationship with different consumer and community engagement -related terms. Identification of key consumer and community engagement -related concepts and terms will be useful to focus future studies and initiatives and enhance production of consumer and community engagement -related evidence.

Hospital partnerships can play a critical role

Hospital-to-hospital partnerships to improving patient safety and quality of care have been used for technical exchange between health workers for a number of decades. These partnerships provide a channel for bi-directional patient safety learning and the co-development of solutions in rapidly evolving global health systems.

Four of the foundation's 10 culture-of-health principles describe long-term outcomes for the nation's health and health care systems:

Optimal health and well-being flourish across geographic, demographic, and social sectors; everyone has access to affordable, high-quality health care; No one is excluded; and the economy is less burdened by health care spending. Making health a shared value Fostering cross-sector collaboration to improve well-being creating healthier, more equitable communities

Transforming health and health care systems

Conclusion

Improving the environment of care to improve patient safety is more than just bout perception; rather it is a constant challenge for hospitals. Further, responsibility for safety resides in each department and individual. From administration to the clinical and non-clinical staff, to housekeeping and volunteers, the shared accountability for patient safety has no boundaries. It demands an open and honest evaluation of the norms, values and current environment of the hospital, prioritizing eliminating or minimizing unnecessary and often inadvertent risks to patients, families and staff. Furthermore, because outcomes are systemic, only the hospitals that commit to being a culture of safety will be successful over the long term. It is requisite that each individual be proactive in addressing patient safety which, in turn, will result in better patient and staff outcomes.

Patient safety is the cornerstone of high-quality health care. Much of the work defining patient safety and practices that prevent harm have focused on negative outcomes of care, such as mortality and morbidity. Nurses are critical to the surveillance and coordination that reduce such adverse outcomes. Much work remains to be done in evaluating the impact of nursing care on positive quality indicators, such as appropriate self-care and other measures of improved health status.

References

[1]. AHRQ PSNet Patient Safety Network. Error chain. [Accessed October 20, 2007]. http://psnet.ahrq.gov/glossary.aspx#E.

[2]. Bowen F, Newenham-Kahindi A, Herremans I. When suits meet roots: the antecedents and consequences of community engagement strategy. J Bus Ethics. 2010; 14(2):297–318.

[3]. Crawford MJ, Rutter D, Manley C, Weaver T, Bhui K, Fulop N, Tyrer P. Systematic review of involving patients in the planning and development of health care. BMJ. 2002; 14(7375):1263. [PMC free article] [PubMed]

[4]. Chung EY-H, Packer T, Yau M. When East meets Wests: community-based rehabilitation in Chinese communities. Disabil Rehabil. 2011;14(8):697–705. [PubMed]

[5]. De Saussure F. Nature of the Linguistic Sign. Course in General Linguistics. 1916.

[6]. Fakih, H. P. E. (2006). "New Designed Hospital Can Enhance Safety".

[7]. https://www.ecri.org/2014hazards

[8]. http://www.psqh.com/marapr05/noise.html

[9]. Lavizzo-Mourey R. Building a Culture of Health. Available at: http:/www.rwjf.org. Accessed December 10, 2014.

[10]. Mazer, Susan (2005) "Error Reduction through Hospital Noise Control," Patient Safety and Quality Healthcare. March-April, 2005

[11]. Nightingale, F. (1860). Notes on Nursing: What it is and what it is not (First American Edition ed.). New York: D. Appleton & Co

[12]. Patient Protection and Affordable Care Act, Pub L No. 111–148, 42 U.S.C. §§ 18001-18121 (2010).

[13]. Paper presented at the Med Health 2006, "Quality and Safety." Arab Hospital Federation

[14]. Rubenstein L, Chang B, Keeler E, et al. Measuring the quality of nursing surveillance activities for five diseases before and after implementation of the DRG-based prospective payment system. Paper presented at Patient outcomes research: examining the effectiveness of nursing practice; 1992; Bethesda, MD.

[15]. Szasz TS, Hollander MH. A contribution to the philosophy of medicine: the basic models of the doctor-patient relationship. Arch Intern Med. 1956; 14(5):585. [PubMed]

[16]. World Health Organization. Declaration of Alma-Ata. Available at: http://www.who.int/publications/almaata_declaration_en.pdf. Accessed December 10, 2014.

[17]. www.healinghealth.com